

CLAIMS

1. DNA fragment, characterized in that it contains the nucleotide sequence depicted in SEQ ID NO 3, the said DNA fragment coding for an uncoupling protein (UCP3_L) which is characterized by the amino acid sequence depicted in SEQ ID NO 4, or in that it contains a homologous sequence coding for the same amino acid sequence.
2. DNA fragment according to Claim 1, characterized in that it originates from human skeletal muscle.
3. DNA fragment, characterized in that it contains the nucleotide sequence depicted in SEQ ID NO 5, the said DNA fragment coding for an uncoupling protein (UCP3_S) possessing the amino acid sequence depicted in SEQ ID NO 6, or in that it contains a homologous sequence coding for the same amino acid sequence.
4. DNA fragment according to Claim 3, characterized in that it originates from human skeletal muscle.
5. Uncoupling protein, characterized in that it comprises the amino acid sequence depicted in SEQ ID NO 4.
6. Uncoupling protein, characterized in that it comprises the amino acid sequence depicted in SEQ ID NO 6.
7. Recombinant DNA fragment, characterized in that it comprises a DNA sequence according to Claims 1, 2, 3 or 4, or one of their homologous sequences.
8. DNA molecule, characterized in that it comprises a cloning vector into which a DNA sequence according to one of Claims 1 to 4 or 7 is inserted.
9. DNA molecule according to Claim 8, characterized in that the cloning vector is a plasmid or a phage.
10. Recombinant DNA molecule according to Claim 9, characterized in that it consists of the nucleotide sequence depicted in SEQ ID NO 3, inserted into the vector pBluescript SK⁺.
11. Recombinant DNA molecule according to Claim 10, deposited with the ATCC (NO 97999).
12. Recombinant DNA molecule according to Claim 9, characterized in that it consists of the nucleotide sequence depicted in SEQ ID NO 5, inserted into the vector pBluescript SK⁺.
13. Recombinant DNA molecule according to Claim 12, deposited with the ATCC (NO 209000).

14. Microorganism selected from bacteria, yeasts and mammalian cells, characterized in that it contains a recombinant DNA molecule as claimed in Claims 7 to 13.

15. Microorganism according to Claim 14, characterized in that it is an XL1-Blue MRF' bacterium (E. coli).

16. Pharmaceutical formulation for correcting a lack of UCP3 (UCP3_L, UCP3_S) by gene therapy, which comprises the gene described in SEQ ID NO 3 or NO 5 and a suitable pharmaceutical vehicle.

17. Pharmaceutical formulation according to Claim 16, characterized in that the said gene is contained in a vector chosen from adenoviruses, retroviruses, adeno-associated viruses, herpesvirus, liposomes or DNA plasmids.

18. Pharmaceutical formulation for correcting an excess of UCP3 (UCP3_L, UCP3_S), characterized in that it comprises as active principle, antisense oligonucleotides relating to fragments of the sequences of UCP3_L or of UCP3_S.